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Appeal Brief



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Patrick O'Connell

Group Art Unit: 3751

Examiner: S. Douglas

Serial No.: 09/454,103

Filed: December 3, 1999

For: FUEL TANK FILLER NECK AND METHOD OF MANUFACTURING
SAME

Attorney Docket No.: SHEL 0101 PUS

APPEAL BRIEF

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Sir:

This is an appeal brief from the final rejection of claims 1-18, 24, and 25 of the Office Action dated December 6, 2000. This application was filed on December 3, 1999.

I. REAL PARTY IN INTEREST

The real party in interest is Shelby Enterprises, a corporation organized and existing under the laws of the state of Michigan, and having a place of business at 70701 Powell Road, Romeo, Michigan, as set forth in the assignment recorded in the U.S. Patent and Trademark Office on December 3, 1999 at Reel 010436 /Frame 0898.

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II. RELATED APPEALS AND INTERFERENCES

There are no appeals or interferences related to the present appeal.

III. STATUS OF CLAIMS

Claims 1-18, 24, and 25 are pending in this application. Claims 1-18, 24, and 25 have been rejected and are the subject of this appeal. Claims 19-23 are withdrawn from consideration.

IV. STATUS OF AMENDMENTS

An amendment after final rejection was filed on February 15, 2000 and entry has been denied.

V. SUMMARY OF THE INVENTION

The invention of the present application is a one-piece seamless fuel tank filler neck for receiving a fuel supply nozzle. The invention is best understood by reference to Figures 1 and 2 of the application. As described from page 6, line 3 to page 7, line 2 of the specification, fuel tank filler neck 2 is incorporated into automobile fuel tank system 4. Filler neck 2 for receiving fuel nozzle 6 for a motor vehicle fuel tank includes a one-piece funnel member 8 having a tubular body. Funnel member 8 defines in off-set axial relation a relatively large inlet opening 10 adapted for attachment to a gas nozzle receptor 12 and a relatively small necked down outlet opening 22 adapted for attachment to inlet 28 of elongated tubular member 24. Gas nozzle receptor 22 positions the fuel nozzle 6 with respect to large inlet opening 10. Elongated tubular member 24 is in communication with fuel tank 26. Gas cap 14 screws directly into gas nozzle receptor 6. Funnel member 8 is drawn and is therefore seamless. During refueling, gas cap 14 is removed and gas nozzle 6 is inserted into nozzle receptor 12. Fuel flows out of gas nozzle 6 into funnel member 8. The off-set axial relation between the inlet opening 10 and outlet opening 22 causes fuel emerging from gas nozzle 6 to impinge on side 30 of funnel member 8 and thereby causes fuel to swirl as the fuel proceeds

claim 1. In Figure 2 of Peickert, the filler neck is shown to bend downward from a relatively large inlet opening into a smaller opening. In this arrangement, the axis of the tube defining the large opening is not in an axially offset relation to the axis of the tube defining the smaller opening. Instead, the axes of these tubes are in a skewed relationship to each other. Furthermore, Peickert does not teach or suggest that this bent arrangement will “induce a sufficient swirl to the fuel being supplied so as to create a sufficient vacuum to prevent fuel vapors from escaping into the atmosphere” (claim 1) nor does it suggest a “seamless configuration [which] induces a sufficient swirl to create a hollow passage for venting vapors from the gas tank during fuel filling” (claim 24). Accordingly, Peickert does not anticipate the present invention under §102(b) because the limitations set forth above required by independent claims 1, 24, and 25 are not disclosed by Peickert.

Rejection Under 35 U.S.C. § 103

Claims 1-10, 12, and 25 are rejected under § 103(a) as being unpatentable over Whitley, II et al. in view of Peickert. Whitley, II discloses a filler neck with a barb to accept a plastic tube, but, as the Examiner has pointed out, Whitley, II does not disclose a seamless filler neck nor the use of an adhesive, resistance weld, or weld for attaching a tubular element to the funnel member. As set forth above, Peickert does not disclose “a one-piece seamless funnel member” having “a large inlet opening” in an off-set axial relation to a “relatively small necked down outlet opening” as defined in independent claims 1 and 25 nor the “sufficient swirl” limitation of claim 1. Accordingly, the combination of Whitley, II and Peickert does not teach or suggest the seamless filler neck of independent claims 1 and 25 nor the claims dependent from claim 1.

Claim 11 is rejected under § 103(a) as being unpatentable over Peickert in view of Bates '179. Peickert discloses a filler neck. Bates discloses a filler neck with an anti-corrosive coating. As set forth above, Peickert does not disclose “a one-piece seamless funnel member” having “a large inlet opening” in an off-set axial relation to a “relatively small necked down outlet opening” nor the “sufficient swirl” limitation as defined in independent

forward to elongated tube member 24. The swirling motion of the fuel continues as the fuel fills fuel tank 26. The swirling motion of the fuel created by funnel member 8, creates a suctioning effect that prevents fuel vapors from escaping into the atmosphere during refueling. Furthermore, the swirling motion of the fuel, also creates a central void that allows any pressure buildups created during refueling to vent thereby preventing premature shutoff of the fuel nozzle.

VI. ISSUES

1. Whether claims 1, 2, 4-7, 12, 24, and 25 are patentable under 35 U.S.C. § 102 over Peickert.
2. Whether claims 1-10, 12, and 25 are patentable under 35 U.S.C. § 103(a) over Whitley, II et al. in view of Peickert.
3. Whether claim 11 is patentable under 35 U.S.C. § 103(a) over Peickert in view of Bates et al.
4. Whether claim 11 is patentable under 35 U.S.C. § 103(a) over Whitley, II et al. in view of Peickert and further in view of Bates et al.
5. Whether claims 13-18 are patentable under 35 U.S.C. § 103(a) over Peickert.

VII. GROUPING OF CLAIMS

For purposes of this appeal, the claims are grouped to correspond to each of the Examiner's rejections. Accordingly, claims 1, 2, 4-7, 12, 24, and 25 are grouped together; claims 1-10, 12, and 25 are grouped together; claims 13-18 are grouped together; and claim 11 will stand alone.

VIII. ARGUMENT

The Examiner has rejected claims 1-18, 24, and 25 under 35 U.S.C. § 102 and 35 U.S.C. § 103. Each category of rejection centers around U.S. patent number 4,635,813

("Peickert"). Applicant respectfully asserts that the Examiner has misinterpreted Peickert and that Peickert is not a proper reference. For a reference to anticipate a claim under 35 U.S.C. § 102(b), the "reference must disclose every element of the challenged claim and enable one skilled in the art to make the anticipating subject matter." *PPG v. Guardian Industries*, 75 F.3d 1558, 1566 (Fed. Cir. 1996), *Chester v. Miller*, 906 F.2d 1574, 1576 n.2 (Fed. Cir. 1990); *In re Donohue*, 766 F.2d 531, 533 (Fed. Cir. 1985). Moreover, "a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Constant v. Advanced Micro-Devices*, 848 F.2d 1560, 1579 (Fed. Cir. 1988). Furthermore, "even if the claimed invention is disclosed in a printed publication, that disclosure will not suffice as prior art if it was not enabling." *Paperless Accounting v. Bay Area Rapid Transit System*, 804 F.2d 659, 665 (Fed. Cir. 1986).

"While a reference must enable someone to practice the invention in order to anticipate under § 102(b), a non-enabling reference may qualify as prior art for the purpose of determining obviousness under § 103." *Symbol Technologies v. Opticon*, 935 F.2d 1569, 1578 (Fed. Cir. 1991). Specifically, the reference will be prior art for all that it discloses. *Beckman Instruments v. LKB Produkter*, 892 F.2d 1547, 1551 (Fed. Cir. 1989). However, when a reference is used to support an obviousness rejection, "the prior art must enable one skilled in the art to make and use the apparatus or method." *Beckman Instruments*, 892 F.2d 1551.

The Examiner's rejections under § 102(b) and § 103 each rely on Peickert. Peickert describes an insert that is placed in a gasoline filler neck. The filler neck is not part of the Peickert invention. Furthermore, the construction of the filler neck is not described at all in the specification of Peickert. Similarly, the filler neck as shown in Figure 2 of Peickert only shows a single longitudinal slice of the filler neck without revealing any details about its construction. In supporting both the § 102(b) and § 103 rejections, the Examiner has stated that the filler neck of Peickert is seamless. The Applicant pointed out to the Examiner that Peickert does not disclose a seamless filler neck. (Oct.31, 2000, Amendment.) In response to the Applicant's observation, the Examiner stated that he "fails to see how the funnel

member can not be construed as being one-piece and seamless.” (Dec. 6, 2000 Office Action, p. 6.) The Examiner is still unable to point to any description in Peickert that states that the filler neck is seamless. Furthermore, as set forth in the present application, seamed tubing had been used in the art prior to Applicant's invention. (specification, p. 18-21.) The practice in the art was to grind down the weld to produce a smooth surface. Furthermore, the Examiner has neglected the Applicant's argument that Peickert does not teach or suggest a filler neck that is constructed to “induce a sufficient swirl to the fuel being supplied so as to create a sufficient vacuum to prevent fuel vapors from escaping into the atmosphere” as required by independent claim 1 of the present invention. As set forth above, a reference must disclose every element of a claim in order to anticipate that claim.

Moreover, since Peickert does not teach a seamless filler neck capable of “induc[ing] a sufficient swirl to the fuel being supplied so as to create a sufficient vacuum to prevent fuel vapors from escaping into the atmosphere,” a rejection under 103 cannot be supported. Combination of Peickert with any of the other references cited by the Examiner must necessarily lack the seamless funnel component and the “induce a sufficient swirl” limitation as described above.

Applicant will specifically address each of the Examiner's rejections below.

Rejection Under 35 U.S.C. § 102

Claims 1, 2, 4-7, 12, 24, and 25 are rejected under § 102(b) as being anticipated by Peickert. However, Peickert does not teach “a one-piece seamless funnel member” as required by independent claims 1, 24, and 25 nor “a large inlet opening” in an off-set axial relation to a “relatively small necked down outlet opening” as required by claims 1 and 25. Instead, Peickert teaches an “insert . . . designed for use with a gasoline filler neck.” (Peickert, col. 1, ll 43-44.) Peickert illustrates the positioning of this insert in a typical gas tank filler neck in Figure 2 and Figure 3 of the Peickert patent. Peickert provides neither a description of the filler neck nor teaches that the filler neck is seamless as required in independent claim 1 of the present invention and the claims 2, 4-7, and 12 which depend from

claim 1. Accordingly, the combination of Whitley, II and Peickert does not teach or suggest the seamless filler neck of independent claims 1 from which claim 11 depends.

Claim 11 is rejected under § 103(a) as being unpatentable over Whitley, II et al. in view of Peickert as applied to claim 1, and further in view of Bates '179. Whitley, II discloses a filler neck but not the "anti-corrosive coating" disclosed in claim 11. The combination of Whitley, II and Peickert does not teach or suggest the seamless filler neck of independent claims 1, 24, and 25. As set forth above, the combination of Whitley and Peickert does not disclose "a one-piece seamless funnel member" having "a large inlet opening" in an off-set axial relation to a "relatively small necked down outlet opening" nor the "sufficient swirl" limitation of independent claim 1. Accordingly, the combination of Whitley, II, Bates and Peickert does not teach or suggest the seamless filler neck of independent claims 1 from which claim 11 depends.

Claims 13-18 are rejected under § 103(a) as being unpatentable over Peickert. The Examiner states that these claims are obvious to one of ordinary skill in the art because the general conditions of the present invention have been disclosed in the prior art. As such, discovery of the optimal or workable ranges described in claims 13-18 are not patentable. *In re Aller*, 105 USPQ 233, 237 (CCPA 1955). However, the application of *In re Aller* to the present invention is inappropriate. As set forth above, Peickert does not disclose a one-piece seamless funnel. Therefore, application of *In re Aller* to the present invention is inappropriate since claims 13-18 depend from claims which distinguish the prior art and are attempting to patent optimal or workable ranges of a claim that otherwise distinguishes the prior art.

Accordingly, Peickert does not teach the seamless filler neck of independent claims 1, 24, and 25. As such, a combination of Peickert with either Whitley, II or Bates does not suggest or teach the invention of independent claims 1, 24, and 25.

IX. CONCLUSION

It is respectfully submitted that the rejection of claims 1-18, 24 and 25 under 35 U.S.C. § 102 and 35 U.S.C. § 103 is improper. Reversal of the rejections on appeal is respectfully requested.

The fee of \$155 as applicable under the provisions of 37 C.F.R. § 1.17(c) is enclosed. Please charge any additional fee or credit any overpayment in connection with this filing to our Deposit Account No. 02-3978. A duplicate of this notice is enclosed for this purpose.

Respectfully submitted,

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Enclosure - Appendix

X. APPENDIX - CLAIMS ON APPEAL

1. A filler neck for receiving a fuel supply nozzle for a motor vehicle fuel tank comprising:

a one-piece seamless funnel member having a tubular body defining in off-set axial relation to each other a relatively large inlet opening adapted for attachment to a receptor for positioning the nozzle with respect to the large inlet opening and a relatively small necked down outlet opening adapted for attachment to the inlet of an elongated tubular member in communication with the fuel tank, the positioning of the nozzle in combination with the offset axial relation inducing a sufficient swirl to the fuel being supplied so as to create a sufficient ^{suctioning effect} ~~vacuum~~ to prevent fuel vapors from escaping into the atmosphere.

2. The filler neck of claim 1 wherein the inlet opening is rolled over to create a surface to seal to the gas cap.

3. The filler neck of claim 1 wherein the small necked down outlet opening is barbed to adapt the opening for attachment to a plastic tube insert.

4. The filler neck of claim 1 wherein the small necked down outlet opening is formed into a hose bead to adapt the opening for attachment to a hose.

5. The filler neck of claim 1 further comprising a vent hole adapted for connection to a fuel tank vent tube.

6. The filler neck of claim 1 including the receptor and wherein the funnel member is drawn and provided with an attachment portion adjacent to the inlet opening for attaching the receptor to the funnel member.

7. The filler neck of claim 1 including the inlet of the elongated member and wherein the funnel member is joined to the elongated member inlet by a braise.

8. The filler neck of claim 1 including a tubular member and wherein the funnel member is joined to the tubular member inlet by adhesive.

9. The filler neck of claim 1 including a tubular member and wherein the funnel member is joined to the tubular member inlet by a resistance weld.

10. The filler neck of claim 1 including a tubular member and wherein the funnel member is joined to the tubular member inlet by a weld.

11. The filler neck of claim 1 including an exterior surface on the filler neck and wherein substantially all of the exterior surface of the filler neck is provided with an anti-corrosive coating.

12. The filler neck of claim 1 wherein the funnel member further comprises:
a relatively large diameter section forming the inlet opening and a spaced-apart relatively smaller diameter tubular section forming the outlet opening wherein the axially offset large diameter and small diameter tubular sections are connected to one another by a tapered section which gradually blends from the large diameter section to the small diameter section.

13. The filler neck of claim 12 wherein the tapered section intersects the large diameter section at an elliptically-shaped junction which lies in a plane inclined 60-85° from the axes of the tubular sections.

14. The filler neck of claim 12 wherein the funnel inlet opening has a diameter D1 and the tubular section has a diameter D2 with a coaxial offset at a distance X where $.1D2$ is less than X which is less than $.3D2$, and where D1 is at least one and a half times D2.

15. The filler neck of claim 14 wherein the funnel inlet axial offset is sufficient to achieve fuel swirl during fuel filling.

16. The filler neck of claim 1 wherein the funnel inlet opening has a diameter D-1 and the outlet opening has a diameter D-2 where D-1 is at least one and a half times D-2.

17. The filler neck of claim 16 wherein D2 is less than 35 mm.

18. The filler neck of claim 16 wherein the D2 is less than 30 mm.

24. A method of filling a gas tank with fuel from a tubular member comprising:

configuring at least a portion of a one-piece seamless tubular member such that the seamless configuration induces a sufficient swirl to create a hollow passage for venting vapors from the gas tank during fuel filling; and
filling the gas tank with fuel.

25. A filler neck for receiving a fuel supply for a motor vehicle fuel tank comprising:

a one-piece seamless funnel member having a tubular body defining in off-set axial relation to each other a relatively large inlet opening adapted for attachment to a receptor for positioning the nozzle with respect to the large inlet

opening and a relatively small necked down outlet opening adapted for attachment to the inlet of an elongated tubular member in communication with the fuel tank.